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suspended the two paintings of Bachelon, " Domestic Life of the Lake Dwellers." Berne also possesses a civic museum for antiquities, and other well-assorted collections of this kind may be found in Brenne, Zürich, Neufchâtel, Geneva and Freiburg.—*A. S. Gatschet.*

RECENT ARTICLES BY DR. TSCHUDI—We have before us a series of recent articles composed by the Peruvian traveler, Dr. J. J. von Tschudi, who at present employs himself in making digests of ethnologic material previously collected. These papers are partly of an anthropologic, partly of a topographic or linguistic import. Among the latter we mention : " Die geographischen Namen in Peru," eight pages, in *Kettler's Geographic Magazine;* " Remarks on Lopez's communication on the tribe of the Calchaqui Indians," in the Argentine Republic (Zeitsch. f. Ethnologie, 1885), in which v. Tschudi lays stress upon the total disparity of the tribe spoken of with the Kechuas in their language; " Das Lama in seinen Beziehungen zum altperuanischen Volksleben " (Zeitschr. f. Ethnologie, 1885, pp. 93–109), a very instructive treatise, based alike on history and on the author's own ethnographic and local investigation. The extensive terminology of the Indians to designate all kinds of young, old, spotted, etc., lamas is of peculiar interest to the linguist.—*A. S. Gaschet.*

SUPPLEMENT TO THE GRAMMAR OF THE CAKCHIQUEL LANGUAGE.—Dr. Otto Stoll, a physician of Zürich, Switzerland, who has lived five years among the Indians of Guatemala, has written some important " Supplementary remarks to the grammar of the Cakchiquel language, edited by Dr. D. G. Brinton." This article was read before the American Philosophical Society of Philadelphia, February 6, 1885, and printed in its Proceedings. Stoll's remarks form a series of rectifications and criticisms upon the antiquated method followed by the ancient ecclesiastics in writing up grammars of the American languages, and the frequent misapplications in their terminology. As to the name Cozumelguapan, Stoll thinks it is of Nahuatl origin, and quotes the etymology of Buschmann, " Near the rainbow water." He may rest assured, that only the local ending -pa, -pan is Nahuatl, and that *cozumel* is a Maya word, signifying *swallow.*—*A. S. Gatschet.*

MICROSCOPY.[1]

NATURAL INJECTION (Leeches).—I have often noticed that leeches hardened in weak chromic acid, or in any chromic solution, are beautifully and naturally injected with their own blood. Where the circulatory system is to be studied by means of sections, this method seems to be the simplest and most reliable one. Not only the larger sinuses, but the intra-epithelial capillaries, may be easily traced by this method, as was first pointed out by E. Ray Lankester.[1]

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[1] Edited by Dr. C. O. WHITMAN, Mus. Comparative Zoology, Cambridge, Mass.

METHODS OF INJECTING ANNELIDS (Maurice Jaquet).[2]—For annelids with dark tissues like Hirudo, a light-colored (white or yellow) injection-mass should be employed, while for transparent animals dark colors are preferable. Chrome yellow serves as a good coloring substance. It is easily obtained by mixing solutions of bichromate of potassium and acetate of lead. A copious yellow precipitate is formed, which should be washed on the filter, and then exposed to the air until nearly dry. The pigment, after being reduced to a pulp-like state, is added to an ordinary aqueous solution of gelatine; and the mass is then filtered warm through linen. If the injection-mass is to be blue, then the gelatine may be dissolved directly in liquid Prussian blue, and the mass filtered through the paper.

As a rule, annelids must be killed before they can be injected. Chloroform and alcohol are the means commonly employed in killing for the purpose of injection; fresh water may also be used for some marine species. A leech, for example, is placed in water containing a small quantity of chloroform; after a few moments it sinks to the bottom and remains motionless. It should be allowed to remain in the water from one to two days before attempting to inject it.

The simplest and most convenient form of syringe consists of a glass tube drawn to a fine point at one extremity, and furnished at the other with a rubber tube. Preparatory to injecting, the glass should be plunged in warm water for a few moments; then, after expelling the water, it may be filled with the injection-mass by sucking the air from the rubber tube. If the injection-mass is turned into the large end of the glass, it may happen that granules are introduced which are large enough to obstruct the narrow passage of the small end. After inserting the cannular end in the vessel, clasp both with the forceps, and then force the injecting fluid, by aspiration through the rubber tube, which is held in the mouth. When the operation is completed, place the animal in cold water, in order to stiffen the injected mass.

AN INJECTION-MASS TO BE USED COLD.—[3]

Borax (saturated solution)	1 part.
Gum arabic	2 parts.

The solutions are best made in hot water. The mixture of the solutions gives a gelatinous mass that is nearly insoluble in water. The mass is broken up into small pieces and a little water added, and then pressed through linen. A thick fluid is thus obtained, which, with the addition of a little more water, must again be passed through linen. This fluid may be kept for months, and is readily thinned to any desired consistency by the addition of water. Before using, it should be tested with alcohol. A small quantity is placed in a test-tube, and then a little alcohol added. The fluid is at once changed to a solid mass of double the original volume, and this mass is insoluble in water.

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[1] Quart. Jour. Mic. Sc., XX, July, 1880, p. 306.

[2] Mitth. a. d. Zoöl., Station z, Neapel, VI, H. 3, p. 298, Dec. 1885.

[3] A. K. Bjeloussoh, Arch. f. Anat. u. Phys. (Anat. Abth.), 1885. H. 5 and 6, p. 379.

Thus the whole process consists in this: that borax and gum arabic form together an insoluble colloid mass; by pressure through linen, with water added, the mass passes into a fluid condition which can be diluted to any extent with water; after injection and immersion of the preparation in alcohol, it again assumes a colloid condition in which it is insoluble in water.

The mass thus prepared may be colored with finely powdered carmine, or with other coloring substances; only cobalt and cadmium are to be avoided.

This mass is especially recommended for macroscopic injections, and for the injection of lymphatic spaces. The injected vessels do not become hard, and the mass does not escape from ruptured points. During dissection the preparation should be covered with alcohol.

In case it becomes desirable to dissolve the injected mass from any part of the vessels, this can be accomplished by dropping dilute acetic acid upon it.

The preparation can be rendered transparent by first washing with water, and then soaking in glycerine. Treatment with alcohol again restores the opacity of the preparation.

METHOD OF KILLING GEPHYREA.—According to Apel[1] the only method of killing these animals, in an extended condition, is by the use of hot water. The animal may be placed in a vessel of sea water, and the temperature gradually raised to about 40° C; or it may be seized by a pair of forceps while in a condition of extension, and plunged for a moment into boiling water. This latter treatment does not kill the animal, but renders it completely limp, in which condition it should be cut open and then placed in some hardening fluid.

A MACERATING MIXTURE (central nervous system of vertebrates).—The following mixture, discovered by Landois, is recommended by Hans Gierke[2] as an excellent macerating agent, especially for the central nervous system of vertebrates:

Chromate of ammonium	5 g.
Phosphate of potassium	5 g.
Sulphate of sodium	5 g.
Distilled water	100 g.

Pieces of fresh-tissues are left in this fluid from one to three, or even four to five days, then transferred to a mixture (in equal parts) of this fluid with ordinary ammonia-carmine (24 hs.).

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[1] Zeitschr. f. wiss. Zool., XLII, H. 3, p. 461, 1885.

[2] Arch. f. Mik. Anat., XXV, H. 4, p. 445, Oct., 1885.

HALLER'S MACERATING FLUID[1] (central nervous system of marine Rhipidoglossa).—

Glycerine	5 parts.
Glacial acetic acid	5 "
Distilled water	20 "

This fluid causes no shrinkage, and accomplishes its work in one-half to three-quarters of an hour.

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SCIENTIFIC NEWS.

PRINCETON, Feb. 16, 1886.

PROFESSOR E. D. COPE, EDITOR AMERICAN NATURALIST.

Dear Sir:—In the February number of the NATURALIST you say with regard to Professor Marsh's *Tinoceras stenops*, formerly referred by you to a new genus Tetheopsis: "I now learn on good authority that the symphyseal region in the specimen in question is entirely constructed of plaster of Paris." As I am the one from whom you derived this information, I feel bound, as a matter of simple justice, to correct the above statement, for having just reëxamined the specimen with great care, I find that I was in error in a very important respect. It is true that the left half of the symphyseal region (the only part visible when I first saw the specimen) is restored in plaster, but the right half is intact, and the restoration and drawing were made from that, a perfectly legitimate proceeding. So much I can positively state of my own knowledge, and I am also informed that the restoration was made after the time when you saw the specimen and after Professor Marsh's figure was published. Hoping that you will give this correction a conspicuous place, I remain,

Very respectfully yours, W. B. SCOTT.

[*Note on the above.*—I gladly give place to the above correction, but must append a little additional information. I saw the type specimen of *T. stenops* before 1885, probably in 1883. It was then half imbedded in a mass of what I supposed to be matrix, and the left side of the skull was exposed. The mandible of that side was at that time entire, as represented in Professor Marsh's plate. It exhibited a narrow entire alveolar edge without trace of alveoli or of weathering. What has become of this left half of the symphysis we are not informed. If it was the osseous jaw, the genus Tetheopsis is well founded.—*E. D. Cope.*]

— Among the scientific names included in the death-roll of the past year, is that of Thomas Bland, the author of numerous papers, principally on the "Land shells of the Antillean islands and the North American continent." Mr. Bland's labors and investigations included not only the descriptive and systematic, but also the geographical, structural and developmental

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[1] Morph. Jahrbuch., XI, H. 3, p. 323, 1885.